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EXAMINER

PIZARRO, RICARDO M

ART UNIT PAPER NUMBER

2661

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/611,308

Applicant(s)

TAGUCHI, MOTOYASU

Examiner

Ricardo M. Pizarro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE Three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,9,11,13 and 19-23 is/are rejected.
- 7) ☒ Claim(s) 4-8,10,12 and 14-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 2-4, 7-8, 11-14, 15-18, 19-23 are objected to because of the following informalities and it I suggested to applicant: In claim line 2 replace “which has” with –comprising : –, in line 10 replace profile” with –profiles-, in line 11 and line 12 replace “circuit” with –circuits-, in line 13 replace “the” with –a-In claim 3 line 4 replace “circuit” with –circuits-. In claim 4 line 4 replace “circuit” with –circuits-. In claim 5line 8 replace “circuit” with –circuits- and “a” with –the-, in line 10 replace “a’ with –the-, in line 11 replace “circuit” with –circuits-.

In claim 6 line 8 replace “circuit” with –circuits- and “a’ with –the-, in line 10 replace “a” with –the-, in line 11 replace “circuit” with –circuits-.

In claim 7 line 8 and line 10 replace “a” with –the-.

In claim 8 line 8 and line 10 replace “a” with –the-,in line 11 replace “circuit” with circuits-.

In claim 11 line 2 and line 5 replace “circuit” with –circuits-.

In claim 12 line 2 and line 5replace “circuit” with –circuits-.

In claim 13 line 2 and line 4 replace “circuit” with –circuits-.

In claim 14 line 2 and line 4 replace “circuit” with –circuits-.

In claim 15 line 2 insert “ : “ after –comprising-, in line 24 replace “circuit” with –circuits- and “the” with –a-, in line 27 replace “circuit” with –circuits-.

In claim 17 line 2 replace “circuit” with –circuits-.

In claim 18 line 4 replace “circuit” with -circuits-.

In claim 19 line 7 delete “ the comparison step of”, in line 10 delete “the stop step of” for better reading of the claim.

In claim 20 line 1 delete “the”, replace “stop” with –stopping-.

In claim 21 line 3 and line 6 delete “the step of” for better reading of the claim, in line 5 replace “stop” with –stopping-.

In claim 22 line 7 delete “the”, in line 9 delete “the comparison step of”, in line 12 delete “the stop step of” for better reading of the claim.

In claim 23 line 9 delete “the comparison step of”, in line 12 replace “ the first stop step of” with –a first-, in line 15 replace “the second stop step of” with –a second- for better reading of the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 13 ; 19-22; 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoji.

US patent no. 6,067,293 (Shoji et al) discloses a CDMA receiver comprising a radio communication apparatus (Apparatus in Fig. 2) in a CDMA communication system (col 1 line 8) comprising a plurality of delay profile circuits (delay circuits 103 a, 103 b and 103c in Fig. 2)

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for generating delay profiles by calculating correlations between a reception signal and known data (col 2 lines 65-67, col 3 lines 1-2) at a plurality of timings (col 1 lines 21-27) and timing circuits which are respectively prepared for said delay profile circuits and generate correlations timings in said profile circuits (col 4 lines 47-55) wherein operation of at least one of said delay profile circuits is changed in accordance with a correlation value of a delay profile (col 4 lines 47-55 , i.e. delay circuit set to zero , col 5 lines 28-30), as in claim 1; wherein said plurality of delay profile circuits are use to simultaneously received signals from a plurality of CDMA transmitters (col 4 lines 8-17) , as in claim 2; wherein a largest correlation value of the delay profile is smaller that a predetermined threshold (predetermined range within threshold values , col 2 lines 62-64), operation of at least one of said delay profile circuits which generated the delay profile and said timing circuit is changed (i.e. delay circuit set to zero , col 5 lines 28-30), as in claim 3; wherein operation of at least one of said delay profile circuits and said timing circuit is changed by changing supplying power to at least one of said delay profile circuits and said timing circuit (col 4 lines 31-41), as in claim 13.

US patent no. 6,067,293 (Shoji et al) discloses a CDMA receiver comprising a radio apparatus which is used in a CDMA communication system (col 1 line 8) and has a plurality of delay profile circuits (delay circuits 103 a, 103 b and 103c in Fig. 2) for generating delay profiles by calculating correlations between a reception signal (col 2 lines 65-67, col 3 lines 1-2) and known data at a plurality of timings (col 1 lines 21-27) comprising comparing a largest correlation value of the delay profile with a predetermined threshold (predetermined range within threshold values , col 2 lines 62-64) and changing operation of said delay profile circuit on the basis of the comparison result (col 4 lines 18-31) , as in claim 19 and 22; wherein

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changing comprises changing operation of said delay profile circuit when the largest correlation value is smaller than the predetermined threshold (i.e. delay circuit set to zero , col 5 lines 28-30), as in claim 20; detecting whether a predetermined period of time elapses while operation of said delay profile circuit is changed, resuming operation of said delay profile circuit when a lapse of the predetermined period of time is detected in the detection step, as in claim 21

US patent no. 6,067,293 (Shoji et al) discloses a CDMA receiver comprising a radio communication apparatus which is used in a CDMA communication system (col 1 line 8) and has a plurality of delay profile circuits(delay circuits 103 a, 103 b and 103c in Fig. 2) for generating delay profiles by calculating correlation between a reception signal (col 2 lines 65-67, col 3 lines 1-2) and known data to a plurality of timings (col 1 lines 21-27) and timing circuits for the respective delay profile circuits to generate correlation timings(col 4 lines 47-55) therein comprising comparing largest correlation value of the delay profile with a predetermined threshold (predetermined range within threshold values , col 2 lines 62-64), a first changing operation of said circuits on the basis of the comparison result and a second changing operation of said timing circuit on the basis of the comparison (col 4 lines 47-55 , i.e. delay circuit set to zero , col 5 lines 28-30),as in claim 23.

Shoji did not specifically said delay profile circuits being stopped, as in claim 1, 19, 22 and 23.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention that in the Shoji reference the delay values are changed in response to a correlation value , for instance delay value in delay circuit can be set to a weighting coefficient of zero and delay made zero(i.e stopped, col 5 lines 18-29) with the motivation of obtaining a CDMA receiver wherein the receiving is performed by using mutual correlation values and wherein the

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possibility of considering a timing outside the delay time of a normal path to be erroneously deemed as a timing in which the receiver synthesis is performed , is greatly reduced

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shoji in view of Popovic.

Shoji did not specifically disclose wherein a predetermined period of time during which operation of said delay profile circuit is stopped is a natural number multiple of a length of a radio frame of a reception signal, as in claim 9.

Popovic discloses a search window delay tracking in CDMA systems wherein a predetermined period of time during which operation of said delay profile circuit is stopped is a natural number multiple of a length of a radio frame of a reception signal(col 8 lines 59-65), as in claim 9.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to provide the delay profile as disclosed in Popovic to the Shoji system with the motivation of providing a methodology for efficient filtration of a search delay signal in order to minimize the influence of noise and interference

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shoji in view of Terashima

Shoji did not specifically disclose wherein operation of at least one of said delay profile circuits and said timing circuit is changed by changing supplying an operation clock to at least one of said delay profile circuits and said timing circuit, as in claim 11.

Terashima discloses a CDMA device wherein operation of at least one of said delay profile circuits and said timing circuit is changed by changing supplying an operation clock to at least

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one of said delay profile circuits and said timing circuit (Figs. 21 a-c, col 22 lines 39-52), as in claim 11.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to provide a CDMA synchronizations system wherein a matched filter conducts correlation detection at high speed holding a received signal with the motivation of conducting correlation detection at the same timing in said system .

Allowable Subject Matter

6. Claims 4-8, 10, 12, 14-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim. Please also notice objection to claims under 37 CFR 1.75

Conclusion

7. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

(for formal communications intended for entry, for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Ricardo Pizarro** whose telephone number is (703) 305-1121. The examiner can normally be reached on Monday-Friday from 9:00 AM to 5:30 PM. The fax number for this Group is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Douglas Olms**, can be reached on (703) 305-4703.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

March 17, 2004

Ricardo M. Pizarro

Douglas W. Olms

DOUGLAS OLMS
SUPERVISORY PATENT EXAMINER
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